

PATENT COOPERATION TREATY

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From the
INTERNATIONAL SEARCHING AUTHORITY

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To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/B2004/051004

International filing date (day/month/year)
24.06.2004

Priority date (day/month/year)
26.06.2003

International Patent Classification (IPC) or both national classification and IPC
H04J3/06, H04L12/28

Applicant
KONINKLIJKE PHILIPS ELECTRONICS, N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2004/051004

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/B2004/051004

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-17
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-17
Industrial applicability (IA)	Yes: Claims	1-17
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V.

The following documents are referred to in this communication:

D1: WO-A-9955028

D2: US-A-2002/0114303

1. Lack of inventive step (Article 33(3) PCT) for claims 1-17

- 1.1 The subject-matter of independent claim 1 does not seem to involve an inventive step, because document D1, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to D1) a method for clock synchronization of a plurality of wireless devices (see "portails WL1, WL2 et WL3") in communication with respective nodes, wherein at least some of these nodes are attached to different buses (see "Ces portails sont chacun également membres d'un des bus câblés, et constituent donc des noeuds au sens du standard IEEE 1394 au meme titre que les autres appareils connectés aux bus" page 5, lines 35-37), comprising the steps of:

synchronizing an internal time base of a wireless master device attached to a first bus (see "serveur de cycle") by receiving a Software Beacon Alert that indicates a time of a subsequent transmission (see "une gigue maximale de 78 ps peut exister sur le début du paquet de début de cycle envoyé au portail 'serveur de cycle' par l'appareil maître du réseau", page 11, lines 11-13) and applying the SBA to a first PLL associated with the master device to create a filtered SBA (see Figure 3 and the description of the "boucle à verrouillage de phase" in the last paragraph of page 11);

receiving a timing message transmitted from the master device on the first bus to a second PLL associated with at least one slave device attached to a second or a third bus of the plurality of buses and providing the timing message from the second PLL to the slave device, so that the master device and the slave device are synchronized ("C'est le serveur de cycle qui est chargé de transmettre aux autres portails l'horloge en provenance de l'appareil maître de cycle du réseau. Les appareils maîtres de cycle des autres bus se caleront sur l'horloge reçue de leur portails", page 6 ln. 14-16; "Au niveau d'un portail autre que le portail serveur de cycle, la récupération du rythme d'horloge est effectuée via une boucle à verrouillage de phase comportant un oscillateur contrôlé de fréquence de base 24,576 MHz", page 13 ln. 1-3; and "Le portail comporte également un circuit 48 de liaison IEEE 1394 et une interface physique 49 avec le bus IEEE 1394

câblé associé au portail", page 13 ln. 15-18.

The subject-matter of claim 1 differs from that disclosed in D1 in that the first PLL uses a phase detector with an asymmetrical gain about zero error and that the timing message is provided by the master device before the arrival of the subsequent SBA.

But these two new method steps cannot be considered as inventive, because the first one is only one of several implementation possibilities the skilled person would adopt for error checking in the PLL and the second is an obvious measure adopted by the skilled person for transferring to the slave devices a valid and up-to-date time information.

Even in case the applicant would introduce into claim 1 the feature that the SBA is transmitted to the master device via the wireless network (and not over the bus as in D1) and he/she would indicate exactly why this amendment does not contravene Art. 19(2) PCT, the subject-matter of claim 1 would not be considered to be inventive, because this feature is disclosed for the same type of application in D2 (see Fig. 1 and 2 and paragraphs 42 to 45: an "initial access point" sends a timing signal to another "access point" wirelessly connected, which on turn sends a "newly produced synchronous timing pattern" to a third "access point") and it would be straightforward for the applicant to combine it with the disclosure of D1 arriving thus to the subject-matter of claim 1.

1.2 Independent claims 6 and 12 appear also not to be inventive because they contain essentially the same corresponding features as claim 1 but formulated instead as an apparatus node, the only feature not having a corresponding method step in claim 1 is that the gain of the PLL is constant and smaller when the filtered SBA is later than the indicated subsequent transmission time and larger and proportional when the SBA is earlier. But this is merely an implementation option of how to implement the PLL error checking function of claim 1, claims 6 and 12 are thus not considered to be inventive.

1.3 Dependent claims 2 to 5, 7 to 11 and 13 to 17 contain merely implementation details of the subject-matter of the independent claims above and are therefore

considered to not introduce any additional inventive subject-matter with respect to any claim they depend from.

Re Item VIII.

1. Clarity objections according to Art. 6 PCT for claims 1, 6 and 12

- 1.1 Independent claim 1 is not clear (see also PCT Guidelines III-4.3a) because the formulation of lines 11-12 "receiving a timing message transmitted from the master device on the first bus to a second PLL" is unprecise and renders the scope of the claim unclear and a revision necessary. In fact, the use of the term "on" the first bus could also be interpreted as if the timing message is transmitted on the first bus, but it is clear from the description that the message is sent via wireless and that here it is meant instead that the master device is attached to the first bus (see for consistency also line 6 of claim 1). Therefore in order to render the claim unambiguous the applicant is requested to replace the term "on" with the expression "attached to".
- 1.2 Independent claim 6 is not clear because the "second bus" at line 11 on page 9 has no antecedent in the claim, according to the description the problem should be solved by appending to "wireless device" at line 3 the expression "and being attached to a second bus".
- 1.3 It is clear from the description for example on page 6 lines 1 and 2 that the error checking at the second phase-lock loop occurs for synchronizing purposes and is a clock cycles error check. This is essential to the definition of the invention and since independent claim 12 does not contain this concept, claim 12 does not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention. Consistent to the formulation of the other two independent claims, it is here suggested to append to the claim the expression "so that the master device (210a) and the at least one slave device (210b, 210c) are synchronized".